

Remote Behavioral Influence Technology

Evidence

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People discerning remote manipulation by technology capable of such influence have formed protest organizations across the world.¹
² ³ ⁴ Educated society is uninformed regarding authentic documentation of the development and existence of these technologies, and unaware of the dangers. Complaint of 'hearing voices' and perception of other remote manipulation must receive appropriate scientific and legal investigation with protection. Professional awareness is virtually absent with eminent texts and opinion being presumptuous, without appraisal of the evidence.

Herein is substantiated:

1. Human wireless internal voice transmission and tracking technologies.
2. Reports of electroencephalographic (EEG) thought reading capacity, evidence of covert development, and remote EEG capture technology.
3. References to the use of these, or similar technologies against humans.

MICROWAVE HEARING

The first American^c ⁵ to publish on the microwave hearing effect was Allan H. Frey in 1962,⁶ yet radar technicians had anecdotes of microwave perception in World War II.⁷ Deaf and normal subjects, even with earplugs, can hear appropriately pulsed microwaves at least up to thousands of feet from the transmitter.⁸ Transmitter parameters above those producing the effect result in a severe buffeting of the head with dizziness and nausea, while parameters below the effect induce a pins and needles sensation. Peak power is the major determinant of loudness, though there is some dependence on pulse width. Pulse modulation appears to influence pitch and

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^c American discovery may not be the first. Soviet and East European electromagnetic bioeffect literature is prior, more extensive, and transparent. A translated Russian treatment is the next text reference, which refers to F. Cazzamalli, an Italian, who mentioned radiofrequency hallucination about 1920.

timbre. The effect “is the most easily and reliably replicated of low power density (microwave) illumination.”⁹ Review of human and animal microwave hearing confirmation by independent investigators of the effect establishes validity.^{10 11 12 13 14} Designs for scaring birds away from aircraft or other hazards by microwave hearing¹⁵ and induction of vertigo¹⁶ exist.^{17 18}

While working for the Advanced Research Projects Agency at Walter Reed Army Institute of Research, Sharp and Grove discovered “receiverless” and “wireless” voice transmission.¹⁹ Their method was simple: the negative deflections of voiceprints from recorded spoken numbers were caused to trigger microwave pulses. Upon illumination by such verbally modulated energy, the words were understood remotely. The discovery’s applications are “obviously not limited to therapeutic medicine” according to James C. Lin in Microwave Auditory Effects and Applications.²⁰

A Defense Intelligence Agency review of Communist literature affirmed microwave sound and indicated voice transmission. The report states, “Sounds and possibly even words which appear to be originating intracranially (within the head) can be induced by signal modulation at very low average power densities.”²¹ Among microwave weapon implications are “great potential for development into a system for disorientating or disrupting the behavior patterns of military or diplomatic personnel.” An Army Mobility Equipment Research and Development Command report affirms microwave speech transmission with applications of “camouflage, decoy, and deception operations.”²² “One decoy and deception concept presently being considered is to remotely create noise in the heads of personnel by exposing them to low power, pulsed microwaves . . . By proper choice of pulse characteristics, intelligible speech may be created” quotes the report.

The Brunkan Patent # 4877027 “Hearing system” is a device capable of verbal microwave hearing.²³ The invention converts speech for remote introduction into the head by parabolic antenna with indication of direct microwave influence on neural activity. The microwave spectrum granted is broad: 100-10,000 MHz (0.1-10 GHz.) Pulse characteristics are essential to perception. Bursts of narrowly grouped, evenly spaced pulses determine sound intensity by their amount per unit time. Although a wide spectrum is patented, with ranges of pulse and burst duration, preferred operation has burst duration at 2 microseconds, and pulse duration at 100 nanoseconds. Operation is at 1000 MHz, which is the frequency of optimal tissue penetration.²⁴ Another patent application based on microwave bursts is “designed in such a way that the burst frequencies are at least virtually equal to the sound frequencies of the sounds picked up by the microphone,” though the transducer here is not remote.²⁵

Stocklin Patent # 4858612 "Hearing device" ⁷ affirms the microwave hearing effect. Stocklin gives exposition to the concept that a microwave component is part of neurophysiology and electroencephalogram (EEG) potentials.²⁶ Microwaves are considered both emitted and absorbed by nerve cell membrane proteins. Microwaves generally excite the brain²⁷ perhaps by influencing calcium,²⁸ a central ion in nerve firing.²⁹ Stocklin represents the auditory cortex as normally producing microwave energy, which the device simulates, thus eliciting sound sensation. Each acoustic tone is weighted for several microwave frequencies by a formula called the mode matrix, which is used to calculate best perception requirements. Observation of EEG desynchronization, delta waves, and brain wave amplitudes helps calibrate the device.³⁰ The lowest frequency for hearing is estimated by the cephalic index. Microwave speech transmission in this patent is unremote with the antenna over and sized for the auditory cortex. Other patents have non-remote transducers of radiowave elicited hearing.^{31 32}

Descriptions in the above patents attribute microwave hearing to direct neural influence. However, the most accepted mechanism in review is by thermoelastic expansion,¹² most likely inducing bone conducted hearing. The cochlea does appear to be involved, but not the middle ear.¹⁴ This divergence of mechanism illustrates the non-thermal/thermal controversy. US exposure standards are based on thermal effects, yet there are effects very difficult to explain by thermodynamics.^{13 33} All accept thermal effects at some level, yet the thermal only school is rather dogmatic related to liability issues of commercial³⁴ and national security concern.³⁵ It must be said that the open literature regarding microwave hearing indicates a thermo-acoustic mechanism.

"Communicating Via the Microwave Auditory Effect." is the title of a small business contract for the Department of Defense. Communication initial results are: "The feasibility of the concept has been established" using both low and high power systems.³⁶ A Freedom of Information Act (FOIA) request as to the project's outcome met with denial on the part of the Air Force, on the grounds that disclosure "could reasonably be expected to cause damage to national security."³⁷ Though the Air Force denied the FOIA disclosure, such a contract's purpose is elaborated by the Air Force's "New World Vistas" report: "It would also appear possible to create high fidelity speech in the human body, raising the possibility of covert suggestion and psychological direction If a pulse stream is used, it should be possible to create an internal acoustic field in the 5-15 kilohertz range, which is audible. Thus it may be possible to 'talk' to selected adversaries in a fashion that would be most disturbing to them."³⁸ Robert Becker, whose eminence was enough to have been twice nominated for the Nobel Prize in biological electromagnetic

fields research, is more explicit: “Such a device has obvious applications in covert operations designed to drive a target crazy with “voices” or deliver undetectable instructions to a programmed assassin.”³⁹

The above Army efforts had results. A microwave voice transmission non-lethal weapon is referenced in the thesaurus of the Center for Army Lessons Learned, which is a military instruction website.⁴⁰ The military thesaurus entry lists analogous devices using “silent sound.”^{d 41}

^d Also called S-squad, Silent Sounds, Inc. licensed Lowery Patent #5159703 “Silent subliminal presentation system”, and has advanced brain wave entrainment technology (vide infra) with several classified patents. (See <http://www.mindspring.com/~silent/menu.htm> and links.) Unessential is individual direction, but possible by ultrasound.

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² Christians Against Mental Slavery, Secretary, John Allman, 98 High Street, Knaresborough, N. Yorks HG5 0HN, United Kingdom. Website at <http://www.slavery.org.uk/> Email is info@slavery.org.uk

³ Moscow Committee for the Ecology of Dwellings, Chairman, Emile Sergeevne Chirkovoi, Korpus 1006, Kvtira 363, Moscow Zelenograd, Russia 103575. . Website at <http://www.moskomekologia.narod.ru> Email is moskomekologia@narod.ru

⁴ International Movement for the Ban of Manipulation of the Human Nervous System by Technologic Means, Founder, Mojmir Babacek, P. O. Box 52, 51101 Turnov, Czech Republic, Europe. Website at <http://www.geocities.com/CapeCanaveral/Campus/2289/webpage.htm> Email is mbabacek@iol.cz

⁵ Presman AS. Electromagnetic Fields and Life Plenum, New York-London, 1970. Presman mentions Cazzimalli and another English reference to this Italian work is at <http://www.datafilter.com/mc/jaski.html> p 2, a semi-popular treatment with references.

⁶ Frey AH. “Human Auditory System response to modulated electromagnetic energy” J Applied Physiol 17 (4): 689-92, 1962. Also at <http://www.raven1.net/frey.htm>

⁷ Stocklin PL. Patent #4858612 “Hearing device” USPTO granted 8/22/89.

⁸ Frey AH and Messenger R. “Human Perception of Illumination with Pulsed Ultrahigh-Frequency Electromagnetic Energy” Science 181: 356-8, 1973.

⁹ Eichert ES and Frey AH. “Human Auditory System Response to Lower Power Density Pulse Modulated Electromagnetic Energy: A Search for Mechanisms” J Microwave Power 11(2): 141, 1976.

¹⁰ Michaelson SM. “Sensation and Perception of Microwave Energy” In: Michaelson SM, Miller MW, Magin R, and Carstensen EL (eds.) Fundamental and Applied Aspects of Nonionizing Radiation Plenum Press, New York, p 213-24, 1975.

¹¹ Puranen L and Jokela K. “Radiation Hazards Assessment of Pulsed Microwave Radars” J Microwave Power Electromagn Energy 31(3): 165-77, 1996.

¹² Hermann DM and Hossman K-A. “Neurological effects of microwave exposure related to mobile communication” J Neurol Sci 152: 1-14, 1997.

¹³ Lai H. “Neurological Effects of Radiofrequency Electromagnetic Radiation” In: Lin JC (ed.) Advances in Electromagnetic Fields in Living Systems vol 1, Plenum, N Y & London, p 27-80, 1994.

ULTRASOUND TRANSMISSION OF VOICE

Internal voice capability, without discernment by others nearby, is also evident in ultrasound-based technology. Lowrey Patent # 6052336 "Apparatus and method of broadcasting audible sound using ultrasonic sound as a carrier" clearly focuses on non-lethal weapon application against crowds or directed at an individual.⁴² Communication is understood as an inner voice with loss of the directional quality of sound perception. "Since most cultures attribute inner voices either as a sign of madness, or as messages from spirits or demons, both of which . . . evoke powerful emotional reactions", quotes the Lowrey patent's effect on people. Replaying speech, with a delay impedes talking and causes stuttering. Normal brain wave patterns can be changed (or entrained), which "may cause temporary incapacitation, intense feelings of discomfort." This technique is detailed by Monroe Patent # 5356368 "Method of and apparatus for inducing desired states of consciousness", with license

¹⁴ Elder JA and Chou CK. "Auditory Responses to Pulsed Radiofrequency Energy" Bioelectromagnetics Suppl 8: S162-73, 2003. Also at

<http://grouper.ieee.org/groups/scc28/sc4/Human%20Perception%20FINAL.pdf>

¹⁵ Kreithen ML. Patent #5774088 "Method and system for warning birds of hazards" USPTO granted 6/30/98.

¹⁶ Lenhardt ML and Ochs AL. Patent #6250255 "Methods and apparatus for alerting and/or repelling birds and other animals" USPTO granted 6/26/01.

¹⁷ Nordwall BD. "Radar Warns Birds of Impending Aircraft" Aviation Wk Space Technol March 10, p 65-6, 1997.

¹⁸ Center for Army Lessons Learned Thesaurus at <http://call.army.mil/products/thesaur/00016275.htm>

¹⁹ Justesen DR. Microwaves and behavior. Am Psychologist 30(3, Mar): 391-401, 1975. Accessed 3/22/12 at

http://sm4csi.home.xs4all.nl/nwo/MindControl/Microwaves_and_Behavior.htm

Relevant excerpts photocopied at

http://slavery.org.uk/MicrowavesAndBehavior_excerpts.pdf

Excerpted reference accessed 3/8/05 at <http://www.raven1.net/v2succes.htm>

Excerpted reference at <http://www.raven1.net/v2succes.htm>

²⁰ Lin JC. Microwave Auditory Effects and Applications Thomas, Springfield Ill, p 176, 1978.

²¹ "Surveillance Technology, 1976: policy and implications, an analysis and compendium of materials: a staff report of the Subcommittee on Constitutional Rights of the Committee of the Judiciary. United States Senate, Ninety-fourth Congress, second session, p 1280, US GOV DOC Y 4J 882:SU 7/6/976.

²² Oskar KJ. "Effects of low power microwaves on the local cerebral blood flow of conscious rats" Army Mobility Equipment Command Report, # AD-A090426, 1980. Available from NASA Technical Reports. Abstract at <http://www.raven1.net/v2s-nasa.htm>

²³ Brunkan WB. Patent #4877027 "Hearing system" USPTO granted 10/31/89.

²⁴ Frey AH. "Behavioral Biophysics" Psychol Bull 63(5): 322-37, 1965.

²⁵ Thijs VMJ. Application #WO1992NL0000216 "Hearing Aid Based on Microwaves" World Intellectual Property Organization Filed 1992-11-26, Published 1993-06-10. Also at <http://www.delphion.com/details?pn=WO09310730A1> Not a US Patent.

to Interstate Industries and involves an auditory replication of brainwave patterns to entrain the EEG as desired.⁴³

Norris Patent # 5889870 "Acoustic heterodyne device and method", directionally produces sound on interference (or heterodyning) of two ultrasound beams.⁴⁴ The cancellation leaves the carried audible sound perceivable. The effect becomes apparent particularly within cavities such as the ear canal. An individual readily understands communication across a noisy crowded room without nearby discernment. Sound can also be produced from mid-air or as reflecting from any surface.

²⁶ Stocklin PL and Stocklin BF. "Possible Microwave Mechanisms of the Mammalian Nervous System" T-I-T J Life Sci 9: 29-51, 1979.

²⁷ Beason RC and Semm P. "Responses of neurons to an amplitude modulated microwave stimulus" Neurosci Lett 333: 175-78, 2002.

²⁸ Adey WR. "Biological Effects of Low Energy Electromagnetic Fields On the Central Nervous System" NATO Advanced Study Institute on Advances in Biological Effects and Dosimetry of Low Energy Electromagnetic Fields Erice Italy, Plenum, p 359-391, 1981.

²⁹ Shepherd GM. Neurobiology 2nd ed. Oxford Univ. Press, New York-Oxford, p146-7, 1988.

³⁰ Bise W. "Low power radio-frequency and microwave effects on human electroencephalogram and behavior" Physiol Chem Phys 10(5): 387-98, 1978.

³¹ Puharich HK and Lawrence JL. Patent #3629521 "Hearing systems" USPTO granted 12/21/71.

³² Flanagan GP. Patent #3393279 "Nervous System Excitation Device" USPTO granted 7/16/68.

³³ Frolich H. "The Biological Effects of Microwaves and Related Questions" Adv Electronics Electron Physics 53: 85-152, 1980.

³⁴ Steneck NH. The Microwave Debate MIT Press Cambridge, Mass, London Eng, 1984.

³⁵ Becker RO. Cross Currents Jeremy P. Tarcher, Inc, Los Angeles, St Martin's Press, p 297-304 & p 303-4, 1990.

³⁶ Kohn B. "Communicating Via the Microwave Auditory Effect" Defense Department Awarded SBIR Contract # F41624-95-C9007, 1993. Also at <http://es.epa.gov/ncer/abstracts/sbir/other/monana/kohn.html> & <http://www.raven1.net/v2s-kohn.htm>

³⁷ Margo P. Cherney Freedom of Information Act Memorandum at <http://www.raven1.net/usafletr.jpg>

³⁸ Castelli CJ. "Questions Linger about Health Effects of DOD's 'Non-Lethal Ray' Inside the Navy 14(12): 1-6, 2001. <http://globalsecurity.org/org/news/2001/e20010327questions.htm>

³⁹ Becker RO and Selden G. The Body Electric: Electromagnetism and the Foundation of Life Quill William Morrow, New York, p 319 & 320, 1985.

⁴⁰ Center for Army Lessons Learned Thesaurus at http://call.army.mil/products/thesaur_e/00016275.asp

⁴¹ Lowery OM. Patent #5159703 "Silent subliminal presentation system" USPTO granted 10/27/92.

⁴² Lowrey A. Patent #6052336 "Apparatus and method of broadcasting audible sound using ultrasonic sound as a carrier" USPTO granted 4/18/00.

⁴³ Monroe RA. Patent #5356368 Method of and apparatus for inducing desired states of consciousness" USPTO granted 10/18/94.

⁴⁴ Norris EG. Patent #5889870 "Acoustic Heterodyne device and method" USPTO granted 3/20/99.

American Technology Corporation, which licensed this patent, has an acoustic non-lethal weapons technology,⁴⁵ a cooperative agreement with the Army Research & Development Command,⁴⁶ and is working with numerous other government agencies.⁴⁷ The corporation's Long Range Acoustic Devices (LRADTM) account for 60% of military sales, and have integration into the Navy's situational awareness & radar surveillance systems⁴⁸ with deployment on naval vessels and fleet harbors.⁴⁹ A popular magazine writer describes the device's inner nature of sound perception.⁵⁰ From separate references, non-lethal weapons treatments affirm sound localization and individual ultrasound effect limitation⁵¹ with obvious lack of nearby discernment;⁵² the latter by a non-lethal weapons program director. A similar ultrasound method of limiting sound to one person, Audio Spotlight is marketed, with exhibition at Boston's Museum of Science and the Smithsonian National Air & Space Museum.⁵³ Both the American Technology device and Audio Spotlight are discussed in an article with some history of ultrasound acoustics, which has origins in sonar.⁵⁴ Other acoustic influence methods may utilize ultrasound.^e

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^e Loos Patent # 6017302 "Subliminal acoustic manipulation of nervous system" can "cause relaxation, drowsiness, or sexual excitement, depending on the precise acoustic frequency near ½ Hz used. The effects of the 2.5 Hz resonance include slowing of certain cortical processes, sleepiness, and disorientation."

⁴⁵ American Technology Corporation Announces Acoustic Non-Lethal Acoustical Weapon Technology for Military and Law Enforcement, press release of 10/30/01.

⁴⁶ American Technology Corporation Shareholder Alert, press release of 4/23/03 at http://www.atcsd.com/PressReleases/04_23_03.html.

⁴⁷ American Technology Corporation Announces Generation II HSS^R Emitter at Annual General Meeting, press release of 5/30/03 at http://www.atcsd.com/PressReleases/05_30_03.html

⁴⁸ American Technology Corporation Awarded Key Military Contract to Deliver Modified Long Range Acoustic Devices (LRADTM) press release of 10/21/03 at http://www.atcsd.com/PressReleases/10_21_03.html

⁴⁹ American Technology Corporation Announces Expansion of Military Business press release of 6/30/03 at http://www.atcsd.com/PressReleases/06_30_03.html

⁵⁰ Sparrow D. "Best of What's New Grand Award Winner: Hypersonic Sound" Popular Science, Dec, p 94, 2002. Also at <http://www.popsci.com/popsci/bown/article/0,16106,388134,00.html>

⁵¹ Bunker RJ (ed.) Less-than-lethal Weapons: Reference Guidebook Los Angeles Calif {National Law Enforcement and Corrections Technology, Western Region}, 2000. Similar treatment is Bunker RJ (ed.) "Nonlethal Weapons Terms and References" INSS Occasional Paper 15, USAF Institute for National Security Studies, USAF Academy, Colorado at <http://www.usafa.af.mil/inss/OCP/ocp15.pdf>

⁵² Alexander JB. Future War: Non-Lethal Weapons in Twenty-First-Century Warfare, St. Martin's Press, New York, p. 101, 1999.

⁵³ Audio Spotlight, Holosonic Research Labs, 51 Water Street Watertown, MA 02472 at <http://www.holosonics.com/>

⁵⁴ Lawton G. "They are playing my tune" New Scientist 9 Sept. p 38-42, 2000.

⁵⁵ Loos HG. Patent #6017302 "Subliminal acoustic manipulation of nervous systems" USPTO granted 1/25/00.

TARGET TRACKING TECHNOLOGY

The maintenance of effects on people requires obstacle penetration and target tracking. These internal voice capable energy forms penetrate obstruction and can be localized. Sound transmission through enclosures is commonly experienced. An inaudible ultrasound high intensity carrier wave is unnoticed. Solid defect inspection is one use of ultrasound, which is being developed to discern movement through walls.⁵⁶ Common technology utilizes the microwave hearing spectrum, which partly or completely encompasses cell phone,⁵⁷ TV, and radar frequencies.⁵⁹ Commercial signals are not perceived, since the hearing effect requires pulsation within the limits that elicit perception. A variety of antennae localize the structurally penetrating microwave illumination with collimation or focusing.⁶⁰ ⁶¹ A patent, "compatible for mobile platforms with DEWs," (Directed Energy Weapons) includes a modified Luneburg lens emitting parallel rays with over 50 years utilization.⁶²

Hablov Patent # 5448501 "Electronic life detection system" is for microwave radar within the hearing spectrum that finds and distinguishes individuals through obstruction.⁶³ Therein is stated: "the modulated component of the reflected microwave signal . . . subjected to frequency analysis . . . forms a type of "electronic fingerprint" of the living being with characteristic features, which . . . permits a distinction between different living beings." Though this patent has use in trapped victim rescue, another Hablov et. al. Patent # 5530429 "Electronic surveillance system" detects interlopers with security emphasis.⁶⁴ Other literature describes the basic method.⁶⁵

⁵⁶Hunt A, Tillery C, and Wild N. "Through-the-Wall Surveillance Technologies" Corrections Today 63(4): 132-3, 2001. Also at http://www.ojp.gov/nij/sciencetech/aca/07_01.pdf

⁵⁷ Frey AH. "Headaches from Cellular Telephones: Are They Real and What Are the Implications" Environ. Health Perspect. 106(3): 101-3, 1998.

⁵⁸ Lin JC, "Cellular Telephones and Their Effect on the Human Brain" Mob Comput and Comm Review, 3(3): 34-5, July, 1999. Also at http://www.eecs.uic.edu/eecspeople/lin_acm3.htm

⁵⁹ Nolan PJ, Fundamentals of College Physics Wm. C. Brown: Dubuque, Iowa, Melbourne, Australia, Oxford England, p 716, 1993.

⁶⁰ Reits BJ. Patent #5736966 "Adjustable microwave antenna" USPTO granted 4/7/98.

⁶¹ Maier G and Harrison D. Patent #5825554 "Lenses with a variable refraction index" USPTO granted 10/20/98.

⁶² Jasper LJ. Patent #6407708 "Microwave generator/radiator using photoconductive switching and dielectric lense" USPTO granted 6/18/02.

⁶³ Hablov DV, Fisun OI, Lupichev LN, Osipov VV, Schestiperov VA, and Schimko R. Patent #5448501 "Electronic life detection system" USPTO granted 9/5/95.

⁶⁴ Hablov DV, Fisun OI, Lupichev LN, Osipov VV, Schestiperov VA, and Schimko R. Patent #5530429 "Electronic surveillance system" USPTO granted 6/25/96.

⁶⁵ Giori FA and Winterberger AR. "Remote Physiological Monitoring Using a Microwave Interferometer" Biomed Sci Instr 3: 291-307, 1967.

The Hablov et. al. patents discern people thru structures by vital organ motion, but others offer more detailed imaging. Fullerton et. al. Patent # 6400307 "System and method for intrusion detection using a time domain radar array" is such a design,⁶⁶ and is commercially available as RadarVision by Time Domain.⁶⁷ Further designs for imaging within structures include: a portable system determining suspect distance,⁶⁸ and presentations by the International Society for Optical Engineering.⁶⁹ ⁷⁰ Software for displaying radar detection on a personal computer is sold.⁷¹

Rowan Patent # 4893815 "Interactive transector device commercial and military grade" describes the acquisition, locking onto, and tracking of human targets.⁷² Stated therein: "Potentially dangerous individuals can be efficiently subdued, apprehended and appropriately detained." The capability of "isolating suspected terrorists from their hostages . . . or individuals within a group without affecting other members of the group" is stated. Laser, radar, infrared, and acoustic sensor fusion is utilized to identify, seek, and locate targets. Locking illumination upon the target until weapons engagement accomplishes tracking. Among available non-lethal weapons is an incapacitating electromagnetic painful pulse. Another target tracking system is the Manportable Surveillance and Target Acquisition Radar by Systems & Electronics, Inc., which is capable of tracking moving targets including personnel. This system has an auto target track feature, and lists moving target detection as 12 km for a walking man.⁷³

A track initiation processor acquires a target, while a data association filter maintains a tracking lock on the target.⁷⁴ An original method for target tracking is the Kalman filter. Numerous weapons guidance examples utilize similar processes and illuminate targets for tracking. Laser illumination is also used for non-human targets.⁷⁵

⁶⁶ Fullerton LW and Richards JI. Patent #6400307 "System and method for intrusion detection using a time domain radar array" USPTO granted 6/4/02.

⁶⁷ Time Domain Corporation, Cummings Research Park, 7057 Old Madison Pike, Suite 250, Huntsville, AL 35806 at <http://www.radarvision.com/>, company website is at <http://www.timedomain.com/>

⁶⁸ Nacci P. "Radar-Based Through-the-Wall Surveillance System" National Law Enforcement and Corrections Center at http://www.raven1.net/nij_p26.htm

⁶⁹ Ferris DD. "Microwave and millimeter-wave systems for wall penetration" SPIE Proceedings 3375: 269-79, 1998.

⁷⁰ Frazier LM. "Surveillance through walls and other opaque materials" SPIE Proceedings 2497: 115-19, 1995.

⁷¹ Radar PC at http://www.si-tex.com/html/radar_pc.html

⁷² Rowan L. Patent #4893815 "Interactive transector device commercial and military grade" USPTO granted 1/16/90.

⁷³ Systems & Electronics Inc., 201 Evans Ave., St. Louis MO 63121, Manportable Surveillance and Target Acquisition Radar at <http://www.seistl.com/images/pdf/mstar.pdf> Company website is at <http://www.seistl.com/directions.html>

Other examples utilize microwave beam target recognition and weapons guidance.^{76 77} Target illumination tracking systems have nanosecond to microsecond response times. Such responses do not require a wide scan area to lock illumination upon persons at achievable speeds. At 90 miles per hour an auto travels less than 1/100 of an inch in a microsecond.

DISCUSSION

Ultrasound voice transmission technology is publicly demonstrated in museum exhibits. The numerous microwave voice transmission citations rest on a considerable foundation of microwave hearing literature. Internal voice non-lethal weapon applications are discussed in many of the citations. There are examples of either existence or sales of non-lethal weapons based on both technologies. Numerous designs involving human location, identification, and tracking methods, have long demonstrated the feasibility of constructing devices capable of producing internal voice continuously in isolated individuals. To deny such technological capabilities in the face of extensive complaint is willfully to ignore documented development of the relevant technologies and engineering competence for complete integration.

THOUGHT READING CAPACITY

Many people who report experiencing remote behavioral influence also perceive mind reading. Thought reading capacity, or brain wave analysis word recognition, is seriously reported. Publications by a Stanford group support and report recognition of specific words from brain waves,^{78 79 80 81} with recent enhanced success.⁸² Other investigators publish above chance magnetoencephalographic (MEG) word recognition.⁸³ The current publications lack reference to a 1975 US government technical report of prior results from Stanford comparable to the recent articles,⁸⁴ and an apparent Russian report of specific EEG word recognition before 1981.⁸⁵ Electroencephalographic (EEG) instant detection by syllables of "a content of category which the testee wishes to speak" quotes Kiyuna et. al. Patent # 5785653 "System and method for predicting internal condition of live body."⁸⁶ A stated use: "the present invention may be use (sic) to detect the internal condition of

⁷⁴ Brookner E. Tracking and Kalman Filtering Made Easy Wiley, New York, 1998.

⁷⁵ Tisdale GE and Lindemann HB. Patent #4497065 "Target recognition system enhanced by active signature measurements" USPTO granted 1/29/85.

⁷⁶ Peralta EA and Reitz KM. Patent #4562439 "Imaging radar seeker" USPTO granted 12/31/85.

⁷⁷ Ahlstrom LGW. Patent #4796834 "Method for combating of targets and projectile or missile for carrying out the method" USPTO granted 1/10/89.

surveillance in criminal investigation” by EEG. NEC Corporation licensed this patent. Remote EEG communication with Armed Forces or clandestine application are the cited uses for Mardirossian Patent # 6011991 “Communication system and method including brain wave analysis and/or use of brain activity.”⁸⁷ This patent affirms EEG word recognition, proposes transmitter capable skin implants, utilizes neural networks (artificial intelligence), and is licensed by Technology Patents, LLC.

Activation of brain cell assemblies provides a theoretical framework⁸⁸ for the above word recognition reports, and extensive publications of averaged EEG word category differentiation. These differentiation reports themselves are consistent with specific word recognition, since their basis is by visual analysis of averaged categories, without the use of sophisticated computer programs as are essential for specific word recognition. Based on EEG/MEG responses, words can be differentiated as to length,⁸⁹ and visual nouns can be differentiated from action verbs.^{90 91 92 93 94} Brain wave patterns distinguish proper names from common nouns,⁹⁵ animal names from numerals,⁹⁶ or content from function words.^{97 98 99 100} Face, arm, or leg action verbs are reported distinguished by brain waves as well.^{101 102} Concrete versus abstract words,¹⁰³ and unambiguous versus ambiguous noun/verbs¹⁰⁴ have distinctive EEG patterns.

Some of these word category differentiation reports are consistent with both the specific recognition reports, and/or the differentiation of non-verbal cognition. Based on EEG/MEG responses, words are readily distinguished from non-words,^{105 106 107} or pictures.¹⁰⁸ EEG differentiation of words rated as to affective meaning such as good-bad, strong-weak, or active-passive is reported.^{109 110}

Other literature indicates EEG differentiation of completely non-verbal cognition. Emotion differentiation by EEG is patented, referencing Air Force research.¹¹¹ Movement anticipation potentials (bereitschaftspotential) and those of actual movement are detectable by EEG.^{112 113} EEG movement signals have been used to move a cursor left or right,¹¹⁴ and just the imagination of movement is sufficiently distinguished by EEG to control switches,¹¹⁵ or control prosthesis grasp.¹¹⁶ Guiding robots through simulated rooms by EEG detection of imagining the spinning of cubes or arm rising of appropriate direction is reported.^{117 118 119} Even more complex grasping and reaching robot arm control has been achieved by signals from implanted brain electrodes in monkeys without body arm movement.¹²⁰ A number of groups have developed procedures to detect deception based on the P300 (positive @ 300 millise.) event related potential (ERP) from EEG.^{121 122 123 124 125 126} A commercial system, Brain Fingerprinting,¹²⁷ which includes analysis of a late

negative ERP potential and frequency analysis in addition to the P300, even asserts 100% accuracy over five separate studies.^{128 129 130 131 132 f}

Functional magnetic resonance imaging (fMRI) studies also report differentiation of cognitive states. Different fMRI brain activation loci for face, natural and manufactured object recognition are reviewed.¹³³ Neural network differentiation of fMRI response to noun categories for fish, four legged animals, trees, flowers, fruits, vegetables, family members, occupations, tools, kitchen items, dwellings, and building parts is reported.¹³⁴ Distinguishing truthful from deceptive responses by fMRI is also reported.^{135 136 137 138} The ability to discern the state of romantic love towards an individual by fMRI has report as well.¹³⁹

The research arm of agencies with missions to covertly acquire information would certainly develop to operational capability any technologic thought reading potential. Assertions that such

^f Referred to, but unavailable, however are a CIA Office of Technology Assessment report, a security industry publication, and a doctoral dissertation.

⁷⁸ Suppes P, Lu Z, and Han B. "Brain wave recognition of words" Proc Natl Acad Sci 94: 14965-69, 1997. Printable free online thru Pubmed or at <http://www.pnas.org/cgi/content/full/94/26/14965>

⁷⁹ Suppes P, Han B, and Lu Z. "Brain-wave recognition of sentences" Proc Natl Acad Sci 95: 15861-66, 1998. Printable free online thru Pubmed or at <http://www.pnas.org/cgi/content/full/95/26/15861>

⁸⁰ Suppes P, Han B, Epelboim J, and Lu Z. "Invariance of brain-wave representations of simple visual images and their names" Proc Natl Acad Sci 96: 14658-63, 1999. Printable free online thru Pubmed or at <http://www.pnas.org/cgi/content/full/96/25/14658>

⁸¹ Suppes P, Han B, Epelboim J, and Lu ZL. "Invariance between subjects of brain wave representations of language" Proc Natl Acad Sci 96(22): 12953-8, 1999. Printable free online thru PubMed or at <http://www.pnas.org/cgi/content/full/96/22/12953>

⁸² Suppes P and Han B. "Brain-wave representation of words by superposition of a few sine waves" Proc Natl Acad Sci 97: 8738-43, 2000. Printable free online thru Pubmed or at <http://www.pnas.org/cgi/content/full/97/15/8738>

⁸³ Assadullahi R and Pulvermuller F. "Neural Network Classification of Word Evoked Neuromagnetic Brain Activity" In: Wermter S, Austin J, and Willshaw D (eds.) Lecture Notes in Artificial Intelligence: Emergent Neurocomputational Architectures Based on Neuroscience Heidelberg Springer, p 311-20, 2001. More limited preliminary communication at <http://www.his.sunderland.ac.uk/durhamab/ramin.doc>

⁸⁴ Pinneo LR and Hall DJ. "Feasibility Study for Design of a Biocybernetic Communication System" Report #ADA017405 National Technical Information Service, 1975. Prepared for the Advanced Research Projects Agency Order #2034, Program Code #2D20, Contractor: Stanford Research Institute Contract dates: 2/9/72-8/31/76, SRI Project LSU-1936. (US cost ~\$50.)

⁸⁵ Selden G. "Machines That Read Minds" Sci Digest Oct 89: 60-6, 1981. Also at <http://www.datafilter.com/mc/machinesThatReadMinds.html>

⁸⁶ Kiyuna T, Tanigawa T, and Yamazaki T. Patent #5785653 "System and method for predicting internal condition of live body" USPTO granted 7/28/98.

⁸⁷ Mardirossian A. Patent #6011991 "Communication system and method including brain wave analysis and/or use of brain activity" USPTO granted 1/4/00.

development has progressed are multiple, and two are confirmed by details of the 1975 government EEG specific word recognition report, which itself is evidence of development covert to open databases.⁸³ An International Committee of the Red Cross Symposium synopsis states EEG computer mind reading development by Lawrence Pinneo in 1974 at Stanford.¹⁴⁰ A letter by the Department of Defense Assistant General Counsel for Manpower, Health, and Public Affairs, Robert L. Gilliat in 1976 affirmed brain wave reading by the Advanced Research Projects Agency.¹⁴¹ "Thought reading or synthetic telepathy" communications technology procurement is considered in a

⁸⁸ Pulvermuller F. "Words in the brain's language" *Behav Brain Sci* 22: 253-336, 1999.

⁸⁹ Assadollahi R and Pulvermuller F. "Neuromagnetic evidence for early access to cognitive representations" *Cog Neurosci Neurophysiol* 12(2): 207-13, 2001.

⁹⁰ Preissl H, Pulvermuller F, Lutzenberger W, and Birbaumer N. "Evoked potentials distinguish between nouns and verbs" *Neurosci Lett* 197: 81-3, 1995.

⁹¹ Pulvermuller F, Mohn B, and Schleicher H. "Semantic or lexico-syntactic factors: what determines word-class specific activity in the human brain?" *Neurosci Lett* 275: 81-4, 1999.

⁹² Pulvermuller F, Lutzenberger W, and Preissl H. "Nouns and Verbs in the Intact Brain: Evidence from Event-related Potentials and High-frequency Cortical Responses" *Cerebral Cortex* 9(5): 497-506, 1999.

⁹³ Pulvermuller F, Preissl H, Lutzenberger W, and Birbaumer N. "Brain Rhythms of Language: Nouns Versus Verbs" *Eur J Neurosci* 8: 917-41, 1996.

⁹⁴ Kellenbach ML, Wijers AA, Hovius M, Mulder J, and Mulder G. "Neural Differentiation of Lexico-Syntactic Categories or Semantic Features? Event-Related Potential Evidence for Both" *J Cog Neurosci* 14(4): 561-77, 2002.

⁹⁵ Muller HM and Kutas M. "What's in a name? Electrophysiological differences between spoken nouns, proper names and one's own name" *Neuroreport* 8: 221-5, 1996.

⁹⁶ Dehaene S. "Electrophysiological evidence for category-specific word processing" *Neuroreport* 6: 2153-7, 1995.

⁹⁷ Neville HJ, Mills D, and Lawson DS. "Fractionating Language: Different Neural Subsystems with Different Sensitive Periods" *Cerebral Cortex* 2: 244-58, 1992.

⁹⁸ Pulvermuller F, Lutzenberger W, and Birbaumer N. "Electrocortical distinction of vocabulary types" *Electroenceph Clin Neurophysiol* 94: 357-70, 1995.

⁹⁹ Mohr B, Pulvermuller F, and Zaidel E. "Lexical Decision After Left, Right, and Bilateral Presentation of Function Words, Content Words, and Non-Words: Evidence For Interhemispheric Interaction" *Neuropsychologia* 32(1): 105-24, 1994.

¹⁰⁰ Munte TF, Wieringa BM, Weyerts H, Szentkuti A, Matzke M, and Johannes S. "Differences in brain potentials to open and closed class words: class and frequency effects" *Neuropsychologia* 39: 91-102, 2001.

¹⁰¹ Pulvermuller F, Harle M, and Hummel F. "Walking or Talking? Behavioral and Neurophysiological Correlates of Action Verb Processing" *Brain Lang* 78: 143-68, 2001.

¹⁰² Pulvermuller F, Harle M, and Hummel F. "Neurophysiological distinction of verb categories" *Cog Neurosci* 11(12): 2789-93, 2000.

¹⁰³ Kounios J and Holcomb PJ. "Concreteness Effects in Semantic Processing: ERP Evidence Supporting Dual-Coding Theory" *J Exp Psychol* 20(4): 804-23, 1994.

¹⁰⁴ Federmeier KD, Segal JB, Lombrozo T, and Kutas M. "Brain responses to nouns, verbs and class-ambiguous words in context" *Brain* 123(12): 2552-66, 2000.

¹⁰⁵ Krause CM, Korpilahti P, Porn B, Joskim J, and Lang HA. "Automatic auditory word perception as measured by 40 Hz EEG responses" *Encephal Clin Neurophysiol*

1993 Jane's⁹ Special Operations Forces (SOF) article: "One day, SOF commandos may be capable of communicating through thought processes." ¹⁴² Descriptive terms are "mental weaponry and psychic warfare" Although contemplated in future context, the availability of a technology without adaptation to troop level requirements is implied, since anticipation of mobile deployment would have to assume prior development.

In 1976, the Malech Patent # 3951134 "Apparatus and method for remotely monitoring and altering brain waves" was granted.¹⁴³ Example of operation is at 100 and 210 MHz; frequencies penetrating

⁹ Jane's is the most respected and authoritative of defense reporting services. 107: 84-7, 1998.

¹⁰⁶ Diesch E, Biermann S, and Luce T. "The magnetic mismatch field elicited by words and phonological non-words" *Neuroreport* 9(3): 455-60, 1998.

¹⁰⁷ Lutzenberger W, Pulvermuller F, and Birbaumer N. "Words and pseudowords elicit distinct patterns of 30-Hz EEG responses" *Neurosci Lett* 176: 115-18, 1994.

¹⁰⁸ Kiefer M. "Perceptual and semantic sources of category-specific effects: Event-related potentials during picture and word categorization" *Mem Cog* 29(1): 100-16, 2001.

¹⁰⁹ Skrandies W. "Evoked potential correlates of semantic meaning—A brain mapping study" *Cog Brain Res* 6: 175-183, 1998.

¹¹⁰ Skrandies W and Chiu MJ. "Dimensions of affective meaning - behavioral evoked potential correlates in Chinese subjects" *Neurosci Lett* 341: 45-8, 2003.

¹¹¹ Patton RE. Patent #6292688 "Method and apparatus for analyzing neurological response to emotion-inducing stimuli" USPTO granted 9/18/01.

¹¹² Deeke L. "Bereitschaftspotential as an indicatory of movement preparation in supplementary motor area and motor cortex" *Ciba Found Symp* 182:132-231, 1987.

¹¹³ Chen R. and Hallett M. "The Time Course of Changes in Motor Cortex Excitability Associated with Voluntary Movement" *Can J Neurol Sci* 26(3): 163-9, 1999.

¹¹⁴ Pfurtscheller G, Kalcher J, Neuper CH, Flotzinger D, and Pregenzer M. "On-line EEG classification during externally-paced hand movements using a neural network classifier" *Electrophysiol and Neurophysiol* 99: 416-25, 1996.

¹¹⁵ Birch GE. "Initial On-Line Evaluations of the LF-ASD Brain-Computer Interface With Able Bodied and Spinal-Cord Subjects Using Imagined Voluntary Motor Potentials" *IEEE Trans Neural Syst Rehabil Eng* 10(4): 219-24, 2002.

¹¹⁶ Guger C, Harkam W, Hertenacs C, and Pfurtscheller G. "Prosthetic Control by an EEG-based Brain-Computer Interface (BCI)" In: Bühler C and Knops H (eds.) *Assistive Technology on the Threshold of the new Millennium, 2003* :at <http://www.gtec.at/research/Publications/aaate.pdf>

¹¹⁷ Millan JR. "Adaptive Brain Interfaces" *Communications of the ACM* 46(3): 74-80, 2003. Abstract at <http://www.idiap.ch/publications/millan-2003-comm-acm.bib.abs.html>

¹¹⁸ Millan JR and Mourifio J. "Asynchronous BCI and Local Neural Classifiers: An Overview of the Adaptive Brain Interface Project" *IEEE Transactions on Neural Systems and Rehabilitation Engineering (Brain-Computer Interface Technology)* 11(2): 159-61, 2003. Article also at ftp://ftp.idiap.ch/pub/reports/2003/millan_2003_nsre.pdf

¹¹⁹ Millan JR, Renkens F, Mourifio J, and Gerstner W. "Non-Invasive Brain-Actuated Control of a Mobile Robot" *Proceedings of the 18th Joint International Conference on Artificial Intelligence* Aug 9-15, in press, 2003. Article also at ftp://ftp.idiap.ch/pub/reports/2003/millan_2003_ijcai.pdf

obstruction. “The individual components of the system for monitoring and controlling brain wave activity may be of conventional type commonly employed in radar”; and “The system permits medical diagnosis of patients, inaccessible to physicians, from remote stations” are quotes indicating remote capacity. License is to Dorne & Margolin Inc., but now protection is expired with public domain. The Malech patent utilizes interference of 210 and 100 MHz frequencies resulting in a 110 MHz return signal, which is demodulated to give EEG waveform.

¹²⁰ Carmens JM, Lebedev MA, Crist RE, O’Doherty JE, Santucci DM, Dimitrov DF, Patil PG, Henriques CS, and Nicolelis MAL. “Learning to Control a Brain-Machine Interface for Reaching and Grasping by Primates” Public Library of Science, Biology Oct 1(1). 2003 at

http://www.plosbiology.org/archive/1545-7885/1/2/pdf/10.1371_journal.pbio.0000042-L.pdf

¹²¹ Farwell LA and Donchin E. “The Truth Will Out: Interrogative Polygraphy (“Lie Detection”) With Event-Related Brain Potentials” *Psychophysiology* 28(5): 531-47, 1991.

¹²² Johnson MM and Rosenfeld JP. “Oddball-evoked P300-based method of deception detection in the laboratory II. Utilization of non-selective activation of relevant knowledge” *Int J Psychophysiol* 12: 289-306, 1992.

¹²³ Rosenfeld JP, Ellwanger J, and Sweet J. “Detecting simulated amnesia with event-related brain potentials” *Int J Psychophysiol* 19: 1-11, 1995.

¹²⁴ Allen JJB and Iacono WG. “A Comparison of methods for the analysis of event-related potentials in deception detection” *Psychophysiology* 34: 234-40, 1997.

¹²⁵ Lorenz J, Kunze K, and Bromm B. “Differentiation of conversive sensory loss and malingering by P300 in a modified oddball task” *Neuroreport* 9: 187-91, 1998.

¹²⁶ Tardif HP, Barry RJ, and Johnstone SJ. “Event-related potentials reveal processing differences in honest vs. malingered memory performance” *Int J Psychophysiol* 46: 147-58, 2002.

¹²⁷ Brain Fingerprinting Laboratories, Inc., 108 West Palm Drive, Fairfield, IA 52556 at <http://www.brainwavescience.com/>

¹²⁸ Farwell LA and Smith SS. “Using Brain MERMER Testing to Detect Knowledge Despite Efforts to Conceal” *J Forensic Sci* 46(1): 135-46, 2001.

¹²⁹ Farwell LA. “Two new twists on the truth detector: brain-wave detection of occupational information” *Psychophysiology* 29(4A): S3, 1992.

¹³⁰ Farwell LA. Patent #5363858 “Method and apparatus for multifaceted electroencephalographic response analysis” USPTO granted 11/15/94.

¹³¹ Farwell LA and Conte FL. Patent #5406956 “Method and apparatus for truth detection” USPTO granted 4/18/95.

¹³² Farwell LA and Conte FL. Patent #5467777 “Method for electroencephalographic information detection” USPTO granted 11/21/95.

¹³³ Joseph JE. “Functional Neuroimaging studies of category specificity in object recognition: A critical review and meta-analysis” *Cog Affect Behav Neurosci* 1(2): 119-36, 2001.

¹³⁴ Mitchell TM, Hutchinson R, Just MA, Niculescu RS, Percira F, and Wang X. “Classifying Instantaneous Cognitive States from fMRI Data” *Am Med Informatics Assoc* November, 2003. Also at <http://www-2.cs.cmu.edu/~tom/amia2003-final.pdf>

¹³⁵ Spence SA, Farrow TF, Herford AE, Wilkinson ID, Zheng Y, and Woodruff PW. “Behavioral and functional anatomical correlates of deception” *Neuroreport* 12(13): 2849-53, 2001.

The capability of remote EEG is predicted by electromagnetic scattering theory using ultrashort pulses, which are not part of the Malech patent.¹⁴⁴ Ultrashort pulses are currently defined in the range of 10^{-12} to 10^{-15} second. Considering that EEG word elicited potentials are comparatively long (hundreds of milliseconds), indicates that remote radar EEG capture is adequate to word recognition, with ultrashort pulses allowing some 10^9 or more radar reflections in a millisecond (10^{-3} sec.)

The possibility of impressing an 'experience set' on an individual by ultrashort pulses is also contemplated.¹⁴³ The above patent can alter brain waves as well as detect them. Microwave non-lethal weapon brain wave disruption¹⁴⁵ and behavioral change including unconsciousness¹⁴⁶ are known.³⁵

The above EEG telemetry patent and ultrashort pulse method are by active radar probe. Yet a passive field extends as far as 12 feet from man as detected by a cryogenic antenna.¹⁴⁷ A technical article maintains this device as entirely adaptable to clandestine applications, and pointedly comments on the disappearance of physiological remote sensing literature since the 1970's for animals and humans, while all other categories of remote sensing research greatly expanded.¹⁴⁸

DISCUSSION

¹³⁶ Lee TM, Liu HL, Tan LH, Chan CC, Mahankali S, Feng CM, Hou J, Fox PT, and Gao JH. "Lie detection by functional magnetic resonance imaging" *Hum Brain Mapp* 15(3): 157-64, 2002.

¹³⁷ Langleben DD, Schneder L, Maldjian JA, Gur RC, McDonald S, Ragland JD, O'Brien CP, and Childress AR. "Brain activity during simulated deception: an event-related functional magnetic resonance study" *Neuroimage* 15(3): 727-32, 2002.

¹³⁸ Ganis G, Kosslyn SM, Stose S, Thompson WL, and Yurgelun-Todd DA. "Neural correlates of different types of deception: an fMRI investigation" *Cereb Cortex* 13(8): 830-6, 2003.

¹³⁹ Bartels A and Zeki S. "The neural basis of romantic love" *Neuroreport* 11(17): 3829-34, 2000.

¹⁴⁰ [Guyatt DG. "Some Aspects of Anti-Personnel Electromagnetic Weapons" International Committee of the Red Cross Symposium: The Medical Profession and the Effects of Weapons, ICRC publication ref. 06681996 \(The paper is available from the Health Division of the ICRC.\) Also at <http://www.parascope.com/articles/0797/em.htm>](http://www.parascope.com/articles/0797/em.htm)

¹⁴¹ Brodeur, P. *The Zapping of America* Norton, New York, p 299 & 105, 1977.

¹⁴² Lopez R. "Special operations survives Pentagon budget constraints" *Jane's International Defense Review* 26(3): 247-51, 1993.

¹⁴³ Malech RG. Patent #3951134 "Apparatus and method for remotely monitoring and altering brain waves" USPTO granted 4/20/76.

¹⁴⁴ Department of the Army, USAF Scientific Advisory Board. "New World Vistas: air and space for the 21st century" 14 vol. (Ancillary Volume) p 89-90, 1996. Also at <http://www.azstarnet.com/~freetht/biologic.htm>

¹⁴⁵ Morehouse DA. *Nonlethal Weapons: War without Death* Praeger, p 20, 1996.

¹⁴⁶ Dando M. *A New Form of Warfare: The Rise of Non-Lethal Weapons* Brassey's, London, Washington, p 22, 1996

Complete rejection of assertions of a remote mind reading capability is just as presumptuous, in the face of complaints, as has been the dismissal of internal voice capacity. Considerable capacity to detect and differentiate mental states is evident from literature reports particularly by EEG. The fact that EEG movement imagination signals are detected for robot guidance on a voluntary unprompted basis^{116 117 118} suggests a similar capacity is feasible for specific EEG word identification, which has only been reported for word prompted responses. Though references to remote EEG are less, they provide plausibly exploitable mechanisms, which may be covertly developed.

LEGAL AND INTERNATIONAL REFERENCES TO BEHAVIORAL INFLUENCE TECHNOLOGIES

References to behavioral influence weapon use by government bodies and international organizations are numerous. Negotiation submissions to the United Nations Committee on Disarmament affirm the reality of microwave weapon nervous system effects.¹⁴⁹ European Parliament passage of resolutions calling for conventions regulating non-lethal weapons and the banning of "weapons which might enable any form of manipulation of human beings"¹⁵⁰ includes neuro-influence capability.¹⁵¹ A resolution relates to HAARP, High Frequency Active Auroral Research Project, which has environmental consequences, and although utilizing high frequency, ionospheric extra low frequencies (ELF) emanation results. Since ELF is within brain wave frequencies the project has capacity to influence whole populations.^{152 153} President Carter's National Security Advisor, Zbigniew Brzezinski, predicted development of such capacity.¹⁵⁴ Nature News reports concern by a French government panel about the potential for thought reading and such a remote capacity.¹⁵⁵ An American draft law prohibiting land, sea, or space-based weapons using electromagnetic, psychotronic (behavioral influence), and sound technologies "directed at individual persons or targeted populations for the purpose of information war, mood management, or mind control" has not yet passed.¹⁵⁶ Russian electromagnetic standards are nearly 1000 times lower than the West, so their weapon law forbidding electromagnetic weapons exceeding Health Department parameters is strict.¹⁵⁷ The Russian draft law explicitly references behavioral influence non-lethal weapons, and development in several countries.¹⁵⁸ Resolutions by the International Union of Radio Science

¹⁴⁷ Taff BE and Stoller KP. Patent #49400558 "Cryogenic remote sensing physiograph" USPTO granted 7/10/90.

¹⁴⁸ Stoller KP and Taff BE. "Remote Physiological Sensing: Historical Perspective, Theories and Preliminary Developments" Med Instrum 20(5): 260-5, 1986.

recognize criminal use of electromagnetic technology, though largely relevant to use against infrastructure.¹⁵⁹

MICROWAVE AND ULTRASOUND USE AGAINST HUMANS

The microwave irradiation of the American Embassy in Moscow received little publicity until the winter of 1976 instillation of protective screening, but irradiation was known since 1953.³⁴ Original frequencies were 2.56-4.1 GHz with additional intermittent 0.6-9.5 GHz signals being permanent by 1975 in a wide band frequency hopping^h consistent pattern with one signal pulsating. The irradiation was directional from nearby buildings and modulated. Complaint to the Soviets had no avail, but the signals disappeared in January 1979 “reportedly as a result of a fire in one or more of the buildings.”¹⁶⁰ A 9-11 GHz signal recurred in 1988.¹⁶¹ Observed frequencies are basically within the microwave hearing spectrum, and pulsation is required. Psychiatric cases occurred during the exposure period, though no epidemiologic relationship was revealed with fully a quarter of the medical records unavailable, and comparison with other Soviet Bloc posts.¹⁵⁹ The CIA had Dr. Milton Zaret review medical Soviet microwave literature to determine the purpose of the irradiation. He concluded the Russians “believed the beam would modify the behavior of the personnel.”¹⁶² In 1976 the post was declared unhealthful and pay raised 20%¹⁴⁰

The most documented citizen microwave irradiation was of peace protesters at Greenham Common American Air Force Base in Berkshire England, who prompted investigation of unusual symptoms.¹⁶³ Radiation measurements exhibited microwaves with symptom experience up to a hundred times the background level, and

^h A means evading detection.

¹⁴⁹ Soviet Union Draft Agreement on the Prohibition of the Development and Manufacture of New Types of Weapons of Mass Destruction and New Systems of Such Weapons. UN Committee on Disarmament, CCD/511/Rev.1, Aug 1977. Also at <http://www.mindjustice.org/9.htm>

¹⁵⁰ European Parliament, 28.1.99 Environment, security, and foreign affairs , A4-0005/99 EP1159, resolutions 23, 24, & 27, January 28, 1999 . Limited excerpts at <http://www.raven1.net/europar.htm>

¹⁵¹ Wright S. “Future Sub-lethal, Incapacitating & Paralyzing Technologies—Their Coming Role in the Mass Production of Torture, Cruel, Inhumane & Degrading Treatment. Presented to The Expert Seminar On Security Equipment & The Prevention of Torture 25-26 October 2002 London, UK and The 16th ISODARCO Winter Course On “The Surge in Non-State Violence: Roots Impacts & Countermeasures” 9 - 16 February, 2003, Andalo, Trento, Italy. Also at <http://www.statewatch.org/news/2002/nov/torture.pdf>

¹⁵² Begich N and Manning J. *Angels Don’t Play This HAARP: Advances in Telsa Technology* Earthpulse Press, Anchorage Alaska, p 176-8, 1995.

¹⁵³ Persinger MA. “On the Possibility of Directly Accessing Every Human Brain By Electromagnetic Induction of Fundamental Algorithms” *Percept Motor Skills* 80: 791-799, 1995.

rose sharply on protests nearer the base.¹⁶⁰ Symptoms became pronounced on cruise missile transport, a protest focus.¹⁶⁰ Recorded were wide ranging complaints: skin burns; 'severe' headaches; drowsiness; temporary paralysis; incoordinated speech; two late (5 mos.) spontaneous abortions; an apparent circulatory failure; and unlike usual menstrual synchronization, irregular or postmenopausal menstruation. The symptom complex fits well with electromagnetic exposure syndrome.¹⁶⁰ It has also been reported that some of the women 'heard voices.'¹⁶⁴ The base closed finally in 1991.

Criminal directed energy weapon use has been reported in Germany.¹⁶⁵ In a number of cases there is similarity of circumstances, complaints, and symptoms. In at least one case microwave fields have been measured with exclusion of the usual sources (cell phone towers, etc.)¹⁶⁶ Plans for construction of a crude device from a microwave oven are sold.¹⁶⁴

¹⁵⁴ Brzezinski Z. Between Two Ages: America's Role in the Technetronic Era Viking Press, New York, p 57 & 252, 1970. Article also at <http://www.bariumblues.com/persinger.htm>

¹⁵⁵ Butler D. "Advances in neuroscience 'may threaten human rights'" Nature 22 January 391: 316, 1998. Also at <http://raven1.net/nature1.htm>

¹⁵⁶ Space Preservation Act of 2001 (Introduced in the House) HR 2977 IH, 107th Congress 1st Session Introduced by Hon. Dennis J. Kucinich. Also at <http://www.raven1.net/govptron.htm>

¹⁵⁷ Federal Law "About Weapons" Federal Laws of the Russian Federation from 21.07.98 [1998] No. 117-F3, from 31.07.98 ['98] No. 156-F3, from 17.12.98 ['98] No. 187-F3, from 19.11.99 ['99] No. 194-F3, from 10.04.2000 ['00] No. 52-F3, from 26.07.01 ['01] ISBN 5-86894-393-7 Translation at <http://www.raven1.net/1-02-5.htm>

¹⁵⁸ Gurov AI. Federal Assembly—Parliament of the Russian Assembly, Governmental Duma, Committee on Safety, "Resolution: Regarding the draft of the Federal Law 'About the Submission of addendum to Article 6 of the Federal Law 'About Weapons'" No 28/3 Nov. 30, 2000. Also at <http://www.raven1.net/1-02-6.htm>

¹⁵⁹ General Assembly. International Union of Radio Science "USRI Resolution on Criminal Activities Using Electromagnetic Tools" In: Records of the USRI General Assembly, Toronto, 25: 178-9, 1999. Excerpt at <http://www.metatechcorp.com/EMithr1/slide2.htm>

¹⁶⁰ Microwave irradiation of the U.S. Embassy in Moscow: review of its history and studies to determine whether or not related health defects were experienced by employees assigned in the period 1953-1977. United States, Congress, Senate Committee on Commerce, Science and Transportation. US GOV. DOC. Y 4.C 73/7: IR 7.

¹⁶¹ Smith CW and Best S. Electromagnetic Man J.M. Dent & Sons Ltd., London p 211, 233, & 235, 1989.

¹⁶² Schiefelbein S. "The Invisible Threat: The Stifled Story of Electric Waves" Saturday Review Sept. 15: 16-20, p 17, 1979.

¹⁶³ Parry G. "Doctors investigating claims of Greenham radiation cases: Peace women fear electronic zapping at base" (Manchester) Guardian, Mar. 10: 3, 1986.

¹⁶⁴ Ramsay R. "ELF: from Mind Control to Mind Wars" Lobster 19: 23, 1990.

¹⁶⁵ Munzert R. "High-Tech Waffe Mikrowelle - Kriminelle Anwendungen von Mikrowellen" Aufklärungsarbeit, Heft 9, April, S. 25-31, 2003. English treatment "Targeting of the Human with Directed Energy Weapons" is at <http://www.grn.es/electropolucio/munzert6902.doc>

¹⁶⁶ Munzert R. personal communication.

Measurement of non-ionizing radiation fields in the vicinity of an Australian victim is described.¹⁶⁷ The intensity ranged from 7 mV in an adjacent room to 35 mV next to the head. The victim suffered from multiple personality disorder attributed to ritual abuse, and claimed an implant with radiological evidence.

Ultrasound behavioral influence technology use in Northern Ireland is cited.¹⁶⁸ The device could focus on one person; and utilized ultrasound cancellation like those patented. It was employed in Vietnam by the Americans, and is known as the squawk box. Mentioned infrasound frequency (ultrasound carrier directed) is like Loos 1/25/00 patent, with psychological effects summarized as 'spooky.' More detail by a defense journalist is quoted: "When the two frequencies mix in the human ear they become intolerable. Some people exposed to the device are said to feel giddy or nauseous and in extreme cases they faint. Most people are intensely annoyed by the device and have a compelling wish to be somewhere else."¹⁶⁹ British police inventories list the specific device, though a spokesman denied use.¹⁶⁰

Sophisticated behavioral influence capability is confirmed by ex-intelligence officers. Julianne McKinney, Director of The National Security Alumni Electronic Surveillance Project is prominent. This is a largely classified employee victim study with internal voice transmission avowal.¹⁷⁰

CONCLUSION

The logic in the prediction by Brzezinskiⁱ of the appearance of a more controlled and directed society dominated by a power elite

ⁱ National Security Advisor to President Carter.

¹⁶⁷ Gillin LM and Gillin L. "Subtle Energies, Intentionality and the Healing of Traumatically Abused Persons" International Conference on Trauma, Attachment and Dissociation, Melbourne, Australia, Sept 12-14, 2003. Also at <http://www.globaltwa.com/subtle.pdf> field measurements are "Submission to Coroner: Additional Information on Possible Cause of Death of Ms. Deva Denise Paul on 10th September 2000, Case Reference 2958/00." at

<http://www.globaltwa.com/SUBMISSION%20TO%20CORONER.pdf> CAT scan indication of an implant is at "Mind Control Using Holography and Dissociation a Process Model" at <http://www.globaltwa.com/documents/MindControl.pdf>

¹⁶⁸ Lewer N and Schofield S. Non-Lethal Weapons: A Fatal Attraction? : Military Strategies and Technologies for 21st-Century Conflict Zed Books, London & New Jersey, p 62, 1997.

¹⁶⁹ Rodwell R. defense correspondent report "Army tests new riot weapon" New Scientist Sept. 20, p 684, 1973.

¹⁷⁰ McKinney J. "Microwave Harassment and Mind Control Experimentation" Unclassified, June-July 1992 4(3): 1-20. Also at <http://www.webcom.com/~pinknoiz/coldwar/microwave.html>

willing to use the latest modern techniques for influencing behavior without hindrance by liberal democratic values is compelling.¹⁵³ Potential behavioral influence targets are multiple. Since those supposedly expert regard a victim's perceptions as psychotic, all complaints are disregarded, not to mention capability to bear witness. Targets may include anyone worth neutralization: domestic adversaries;¹⁷¹ security risks, which may only comprise classified disclosures; persons witnessing serious improprieties; and those prone to committing advantageous felonies. Legality is readily circumvented by executive orders, (particularly declaration of a crisis or emergency situation), which can be sealed, and this prerogative is only accountable to co-equal branches of government as is now the case with terrorism suspects. Internal voice technology is most applicable within the same language and culture. Space here limits more than mention of remote EEG influence capacity, hypnosis, and footnoting remote subliminal technique. Hypnotic or subliminal message presentation represent particularly insidious means of influencing thought, mood, behavior, and undermining civil liberties.

Most complainants allege public sector involvement or sub-contracted private companies.¹⁷² Remote behavioral influence research has long been funded by the US,³⁹ with evidence of development^{19 22 36 45 46} and weapons,^{18 44 47 48 51} though denying on national security grounds project results³⁷ and foreign literature analyses.¹⁷³ Some thirty countries evidence active behavioral influence weapon research.¹⁷⁴

Though there is some scant psychoanalytical acknowledgement,¹⁷⁵ current medical awareness ensures effective neutralization of the afflicted. Not all those affected are stigmatized. However phenomena of 'hearing voices', or perception of remote manipulation, when recounted to health professionals results in various stigmatizing diagnoses,^{176 177} totally without investigation. Determination of relevant fields around complainants is mandatory, or abatement by proven shielding of such phenomena. Professional opinions formed without excluding these technologies are negligent.

The medical community has long heard either identical or similar complaint¹⁷⁸ to that above delineated as known internal voice technology from numerous victims. This fact indicts the scholarship

¹⁷¹ Lamb C, and Swett C. Department of Defense Directive, Non-Lethal Weapons Policy Draft of 21 July 1994. at <http://www.heart7.net/mcf/mindnet/mn168.htm> particularly last paragraph of p 7 onto p 8.

¹⁷² McKinney J. Letter to President Clinton at <http://www.heart7.net/mcf/mckinney.htm>

¹⁷³ Cheryl Welsh Freedom of Information Act request reply for review of Soviet literature, March 19, 1997 at <http://www.raven1.net/nsa1.gif>

¹⁷⁴ Lopatin VN, and Tsygankov VD. *Psychotronic War and the Security of Russia* Moscow, 1999. See research abroad section in translation at <http://www.raven1.net/russtran.htm>

and presumption of impossibility evident in the pertinent medical literature. In addition, microwave bioeffects have considerable congruence with reported symptoms of major psychosis other than 'voices.'¹⁷⁹ All of society should be disturbed at the prospect of technologic induction of voice, since the unaware subject would perceive such voices as his own natural thought, without such an assault as to provoke complaint.

It is difficult to deny the level of substantiation for the possibility that a thought reading capacity exists, even with references that support a remote basis. The logic that in the thirty years since the Pinneo work started, this capability has had full development is too sound to dismiss victim corroboration. It would have to be admitted that funding for projects by the defense and security agencies is considerably greater than for open science, and that thought reading would be a priority area. Educated democracies should not be complacent at this prospect, given the potential for political control, and existence of a remote EEG method in the public domain.

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All patents are printable from the U. S. Patent Office website.
EEG word recognition articles are printable thru Pubmed as designated.
Each is free

Pinneo LR and Hall DJ. "Feasibility Study for Design of a Biocybernetic Communication System" is available from Christians Against Mental Slavery at info@slavery.org.uk.

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¹⁷⁶ American Psychiatric Association DSM-IV Task Force. Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV-TR™) American Psychiatric Association, 2000.

¹⁷⁷ Flaum M and Schultz SK. "The Core Symptoms of Schizophrenia" Ann Med 28(6): 525-31, 1996.

¹⁷⁸ Isselbacher, KJ, Adams RD, Brunwald E, Petersdorf RG, and Wilson JD. Harrison's Principles of Internal Medicine Ninth Ed., McGraw-Hill, New York, p 150, 1980.

¹⁷⁹ McMurtrey JJ. "Microwave Bioeffect Congruence with Schizophrenia" In press, 2003. Available at <http://www.grn.es/electropolucio/microwav.rtf>